

| Notice of Allowability | Application No. | Applicant(s) |
|-------------------------------|----------------------------|---------------------|
| | 10/698,882 | TROOST ET AL. |
| | Examiner Marc E. Norman | Art Unit 3744 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to amendment filed 1/23/07.
2. The allowed claim(s) is/are 1-13, 15-17 and 19-30.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted in this application if not already included:
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application
6. Interview Summary (PTO-413),
Paper No./Mail Date _____
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

REASONS FOR ALLOWANCE

Claims 1-13, 15-17, and 19-30 are allowed.

The following is an examiner's statement of reasons for allowance:

As per independent claim 1, the prior art does not teach the method combination as recited, and in particular the steps of operating the HVAC system in a number of heating cycles to maintain a desired temperature in an inside space relative to a temperature set point; and performing both the monitoring and determining steps during at least one of the heating cycles.

As per independent claims 17 and 19, the prior art does not teach the controller/HVAC system combinations as recited, and in particular wherein the determining means compares a value related to the output signal of the flame sensor to a reference value.

As per independent claim 20, the prior art does not teach the controller readable medium combination as recited, and in particular the combined steps of during an ignition sequence, using the flame value to determine if a flame is present, and if a flame is present, allowing the HVAC system to continue; comparing the flame value to an acceptable flame value range; and if the flame value is outside of the acceptable flame value range, indicating that the flue may be at least partially blocked.

As per independent claims 22 and 29, the prior art does not teach the HVAC system/controller readable medium combinations as recited, and in particular wherein if the flame value has been stable within the predetermined limits, the reference value is adjusted to be closer to the flame value.

As per independent claim 25, the prior art does not teach the method combination as recited, and in particular determining a flame value that is related to an average of the flame sensor output taken at different times.

As per independent claim 26, the prior art does not teach the method combination as recited, and in particular if the flame value varies by less than a predetermined amount from the first time to the second time, resetting the reference value to the new reference value.

As per independent claim 27, the prior art does not teach the method combination as recited, and in particular if the difference exceeds a predetermined threshold for a predetermined duration of time, determining that the flue is blocked.

As per independent claim 28, the prior art does not teach the method combination as recited, and in particular the combined steps of monitoring the intensity of a flame of the burner by optically observing the intensity of light in at least part of the chamber; and determining if the intensity of the flame of the burner likely corresponds to an at least partial blockage of the flue.

As per independent claim 30, the prior art does not teach the HVAC system combination as recited, and in particular wherein the controller also monitors the sensor output and determining if the intensity of the burner flame is outside of an acceptable limit, indicating that the flue may be at least partially blocked.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN



MARC NORMAN
PRIMARY EXAMINER